MYASNIKOVA, M.N. (Ryazan')

Treating patients who suffered accidental amputation of the extremities. Fel'd. i akush. 21 no.7:13-16 Jl '56. (MIRA 9:10)
(AMPUTATION) (FIRST AID IN ILLNESS AND INJURY)

MYASNIKOVA, M.M.

Gastric sarcoma. Khirurgiia 34 no.5:116-118 My '58 (MIRA 11:7)

1. Iz kafedry gospital'noy khirurgii (zav. - prof. B.P. Kirillov) Ryazanskogo meditsinskogo instituta imeni I.P. Pavlova.
(STOMACH NEOPLASMS, case reports
sarcoma (Rus))
(SARCOMA, case reports
stomach (Rus))

KIRILLOV, B.P.; LYSENKO, V.A.; MAKEVNINA, T.N.; MYASNIKOVA, M.N.; PETROVSKAYA, A.V.; KIRILLOV, Yu.B.

"Creation d'anastomoses d'organes."

report presented at the 18th Congress of the Intl Society of Surgery, Munich, 13-20 Sep '59.

MYASNIKOVA, L.N.

Late complications of burns. Ortop., travm. i protez. 21 no.11: 12-15 '60. (MIRA 14:4)

(BURNS AND SCALDS)

KIRILLOV, B.P., prof.; PETROVSKAYA, A.V., kand.med.nauk; MYASNIKOVA, M.N.; MAKEVINA, T.N. [deceased]; YEPISHIN, N.M. (Ryazan')

Role of creating organic anastomoses in various types of vascular pathology of the internal organs. Khirurgiia 36 no.12:3-4 '60. (MIRA 14:1)

(LIVER—CIRRHOSIS)

KOSTRIKOV, V.S., kand.med.nauk; MYASNIKOVA, M.S.

Fractures of the upper end of the humerus and their treatment.
Med.sestra 18 no.2:3-9 F '59. (MIRA 12:2)

1. Iz Ukrainskogo nauchno-issledovatel'skogo instituta ortopedii i travmatologii imeni prof. M.I.Sitenko, Khar'kov.
(HUMERUS--FRACTURE)

MYASNIKOVA, N.A.

Calculating the rise of the ground-water level by the method of finite differences in case of a two-dimensional stream. Trudy Lab.gidrogeol.probl. 20:55-68 '58. (MIRA 12:5)
(Water, Underground)

KAMENSKIY, G.N. [deceased]; GAVICH, I.K.; MYASNIKOVA, N.A.; SEMENOVA, S.M.; RODIONOV, N.V., red.izd-va; TIKHOMIROVA, S.G., tekhn.red.

[Hydrodynamic principles underlying the study of the ground-water regimen and its changes due to the effect of artificial factors; method of finite differences] Gidrodinamicheskie osnovy izucheniia rezhima gruntovykh vod i ego izmenenie pod vliianiem iskusstvennykh faktorov. Moskva, Izd-vo Akad. nauk SSSR, 1960. 190 p. (Akademiia nauk SSSR. Laboratoriia gidrogeologicheskikh problem. Trudy, vol. 26). (MIRA 13:9)

1. Chlen-korrespondent AN SSSR (for Kamenskiy).
(Water, Underground)

MYASNIKOVA, N.A.

Comparing some theoretical methods used in forecasting the rise of the ground-water level with data of in situ observations. Trudy Lab. gidrogeol. probl. 36:22-34 '61. (MIRA 14:11)

(Water, Underground)

MYASNIKOVA, N.A.

Prediction of the rise of the ground water level in a bedded medium by the method of hydraulic analogies as revealed by the studies of upper waters of the Irkutsk Hydroelectric Power Station. Trudy Lab.gidrogeol.probl. 40:93-102 '62. (MIRA 15:11)
(Irkutsk Hydroelectric Power Station—Water, Underground)

MYASNIKOVA, Nataliya Alekseyevna; GAVICH, I.K., kand. geol.-min. nauk, otv. red.; ZNAMENSKIY, V.L., red.

[Forecasting the rise of ground water by the method of hydraulic analogies under complex hydrogeological conditions] Prognoz podpora gruntovykh vod metodom gidravlicheskikh analogii (v slozhnykh gidrogeologicheskikh usloviiakh). Moskva, Izd-vo "Nauka," 1964. 69 p.
(MIRA 17:6)

LEVITIN, I.B., kand.tekhn.nauk; MYASNIKOVA, N.G., inzh.; POPOVA, K.B., nauchnyy sotrudnik; SINTSOV, V.N., nauchnyy sotrudnik

Study of the temperature fields of electrical apparatus using an evaporograph. Vest. elektroprom. 34 no.1:18-23 Ja '63. (MIRA 16:1)

(Electric apparatus and appliances)
(Temperature--Measurement)

EHON, O.B., doktor tekhn. nauk, prof.; MYASNIKOVA, N.G., inzh.

Welding of electrical contactors during passage of large currents. Elektrotekhnika 34 no.10:41-47 O '63.
(MIRA 16:11)

MYASNIKOVA N. V.

FEYMAN, I.I., kand.tekhn.nauk; GRUBOV, A.F.; GAGOROCHKINA, M.K., studentka; MYASNIKOVA, N.V., studentka

Choosing optimum weft twists for burlap fabrics. Tekst.prom. 18 no.5:70-71 My '58. (MIRA 11:5)

1. Glavnyy inzhener Narvskoy l'no-dzhutovoy fabriki (for Grubov).
2. Kostromskoy tekstil'nyy institut (for Gagarochkina, Myasnikova).
(Burlap)

SHILLER-VOLKOVA, N.N.; KOLCHINA, T.P.; NEVSKAYA, Ye.A.; ORLOV, N.I.; TROITSKAYA, I.P.; FEDOROVA, F.A.; MYASNIKOVA, O.F.

Experience in the use of cytologic methods in preventive examinations of women. Akush. i gin. 40 no.4:71-74 Jl-Ag '64. (MIRA 18:4)

1. Gosudarstvennyy onkologicheskiy institut imeni Gertsena (dir. - prof. A.N.Novikov), Moskva i Rodil'nyy dom No.6 (glavnyy vrach I.V. Pavlova), Moskva.

MYASNIKOVA, O.Kh.

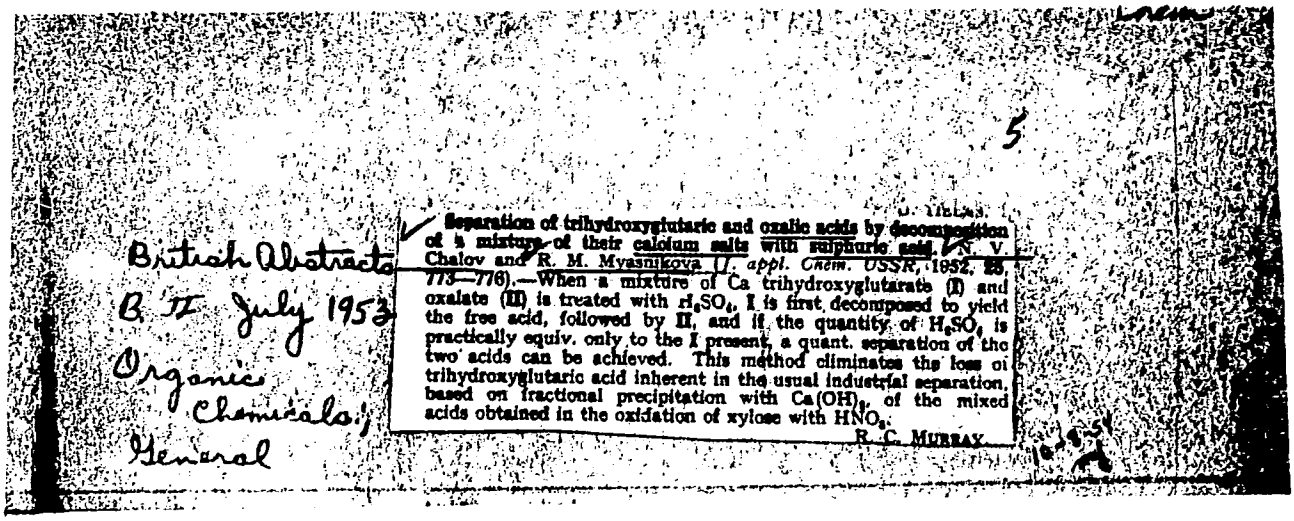
Effect of sunflower oil on indicators of lipid metabolism in patients with atherosclerosis. Terap.arkh. 31 no.10:30-33 O '59.
(MIRA 13:3)

1. Iz kliniki lechebnogo pitaniya (zaveduyushchiy - prof. F.K. Men'shikov) Instituta pitaniya AMN SSSR, Moskva.
(LIPIDS blood)
(ARTERIOSCLEROSIS blood)
(OILS)

ZYULKOVSKA, B.; MYASNIKOVA, R.M.; K AYGORODSKIY, A.I.

Crystal structure of dipheny mercury. Zhur. strukt. khim. 5 no.5:737-742 S-O '64 (MIRA 18:1)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.



British Abstracts
B II July 1953
Organic Chemicals;
General

5

Separation of trihydroxyglutaric and oxalic acids by decomposition of a mixture of their calcium salts with sulphuric acid. N. V. Chalov and R. M. Myasnikova (*J. appl. Chem. USSR*, 1952, **25**, 775—776).—When a mixture of Ca trihydroxyglutarate (I) and oxalate (II) is treated with H_2SO_4, I is first decomposed to yield the free acid, followed by II, and if the quantity of H_2SO_4 is practically equiv. only to the I present, a quant. separation of the two acids can be achieved. This method eliminates the loss of trihydroxyglutaric acid inherent in the usual industrial separation, based on fractional precipitation with $Ca(OH)_2$, of the mixed acids obtained in the oxidation of xylose with HNO_3.

R. C. MURRAY.

MYASNIKOVA, R.M.

SAPOTNITSKIY, S.A.; MASSOV, Ya.A.; MYASNIKOVA, R.M.

Conversation of sulfite-waste liquor concentrate from a fluid to a solid state. Gidroliz.i lesokhim.prom. 10 no.4:17 '57. (MIRA 10:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrolizhnoy i sul'fitno-spirtovoy promyshlennosti.
(Sulfite liquor)

AUTHORS: Myasnikova, R.M. and Kitaygorodskiy, A.I. 70-3-2-5/26

TITLE: The Structures of Mixed Crystals of the System Acridine-Anthracene (Stroyeniye smeshannykh kristallov sistemy akridin-antratsen)

PERIODICAL: Kristallografiya, 1958, Vol 3, Nr 2, pp 160 - 166 (USSR).

ABSTRACT: The anthracene and acridine molecules are geometrically similar but owing to the presence of a nitrogen atom in the acridine molecule, their symmetries are mmm and mm2 respectively. It was earlier thought that a continuous range of solid solutions is formed but this is shown to be incorrect and that there are breaks at 4% and 28% anthracene. From 0- 4.6% anthracene needle crystals are formed; between 4.6 and 28.2% monocrystals were not formed and at greater concentrations plates were produced. The unit cell dimensions were: 100% acridine a.sinβ=16.35, b=18.51, c = 6.07 A. packing coefficient k=0.713; 4.6% anthracene a.sinβ=17.08, b=19.60, c=6.08, k=0.644; 28.2% anthracene a=8.421. b=6.06, c=11.054, β=123°46', k=0.707; 100% anthracene a = 8.561, b=6.036, c=11.163, β=124°42', k=0.722. At the anthracene-rich end there are 2 molecules per unit cell and at the other end 8 molecules.

Card1/2

The Structures of Mixed Crystals of the System Acridine-Anthracene

70-3-2-5/26

There are 4 figures, 2 tables and 6 references, 3 of which are Soviet and 3 English.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSR (Institute of Elemental-organic Compounds, Ac.Sc. USSR)

SUBMITTED: July 9, 1957

Card 2/2

SAPOTNITSKIY, S.A.; MYASNIKOVA, R.M.; MASSOV, Ya.A.

Steam desorption of SO_2 from experimental solutions. Gidroliz. i lesokhim. prom. 11 no.5:15-16 '58. (MIRA 11:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidroliznoy i sul'fitno spirtovoy promyshlennosti.
(Desorption) (Sulfur dioxide) (Hydrolysis)

MYASNIKOVA, R.M.

KITAYGORODSKIY, A. I.; KOZHIN, Viktor Mikhaylovich; KOLOSOV, N. Ya.; DON-CHAY, Lyan; MNYUKH, Yuriy Vladimirovich; MYASNIKOVA, R. M.
MYASNIKOVA,

"Conditions of Formation and the Structure of Solid Solutions of Organic Substances"

a report presented at Symposium of the International Union of Crystallography Leningrad, 21-27 May 1959

MYASNIKOVA, R. M., KITAYGORODSKY, A.I.

"~~6~~2. On the Theory of Solid Solutions of Organic Compounds."

Inst. of Organo-Element Compounds, Leninsky prosp. 31, Moscow, USSR.

paper submitted for 5th Gen. Assembly, Symposium on Lattice Defects, Intl. Union of Crystallography, Cambridge U.K. Aug 1960.

KITAYGORODSKIY, A.I.; MYASNIKOVA, R.M.

Distribution of impurity molecules in solid solutions of organic compounds. Kristallografiia 5 no.2:247-252 Mr-Ap '60. (MIRA 13:9)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Solutions, Solid) (Organic compounds)

S/070/60/005/004/010/012
E132/E360

AUTHORS: Kitaygorodskiy, A.I. and Myasnikova, R.M.

TITLE: On the Theory of Solid Solutions of Organic Substances

PERIODICAL: Kristallografiya, 1960, Vol. 5, No. 4, pp. 638 - 642

TEXT: Earlier contributions to the theory of solid solutions of organic substances (9 references to work by this group) are now followed by a thermodynamic examination of the problem. Concepts of the radius of action of the impurity (minor constituent) molecules and "interlock solubility" are introduced. In the latter case impurity molecules enter the lattice of a solvent only in the boundaries between blocks and not continuously. A quantitative relationship is found between the solubility and the geometrical distortions of the lattice.
A preliminary assessment is made of which factors are important thermodynamically. For an experimental verification it is necessary to determine: the strain energy on change of the crystal unit cell size from the energy curve of the interaction of non-valency bonded atoms; the change in the oscillation energy of the molecules by finding by X-ray methods the characteristic

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S/070/60/005/004/010/012
E132/E360

On the Theory of Solid Solutions of Organic Substances

temperature, the difference of the free energies of the components by measuring their heats of sublimation. Tests of numerical values give agreement with the simple thermodynamic picture. A numerical calculation is given of the distortion energy of anthracene molecules in the acridine lattice. Cases are observed experimentally where the cell size of the solvent does not greatly alter with the presence of solute molecules and here interblock solubility may occur.

There are 10 references: 9 Soviet and 1 French.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR (Institute of Element-organic Compounds of the AS USSR)

SUBMITTED: February 2, 1960

Card 2/2

MYASNIKOVA, R. M., Cand Phys-Math Sci, "Investigation of solubility in a solid state on the [redacted] of certain binary organic systems." Moscow, 1961. (Inst of Crystallography Acad Sci USSR). (KL, 3-61, 204).

L 12799-63 BDS

ACCESSION NR: AP3000771 S/0070/63/008/003/0393/0397

AUTHOR: Kitaygorodskiy, A. I.; Myasnikova, R. M.; Samarskaya, V. D. 50 49

TITLE: Mutual solubility of tolan and mercury diphenate in the solid state

SOURCE: Kristallografiya, v. 8, no. 3, 1963, 393-397

TOPIC TAGS: molecular volume, solid solution, organic solids, tolan, mercury diphenate

ABSTRACT: This study is a continuation of work on measuring mutual solubilities of organic substances, carried on for several years at the Institute of Heteroorganic Compounds. The two constituents in the present study have molecules geometrically similar. It was found that the maximum content of tolan in crystals with mercury-diphenate structure is 8.2%, and the maximum content of the diphenate in tolan structure is 14.0%. The authors have constructed diagrams showing composition of the system and have plotted curves relating molecular volume to concentration of admixture in the crystals. Phases with the structure of mercury diphenat show a smooth decline in the curve of molecular volume, but the corresponding curve for tolan passes through a maximum. The authors conclude, particularly from this fact, that it is necessary to have a complete thermodynamic theory in order to explain peculiarities of solubility in such systems. Orig. art. has: 4 figures

Card 1/2/ Ass. Institute of Elementoorganic Compounds

SAPOTNITSKIY, S.A.; MYASNIKOVA, R.M.; SHARKOV, V.I.

Use of SO_2 for the inversion of oligosaccharides in the liquor of bisulfite cooking of vegetable raw materials. Gidroliz. i lesokhim.prom. 17 no.1:12-13 '64. (MIRA 17:4)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut gidroliznoy i sul'fitno-spirtovoy promyshlennosti.

MYASNIKOVA, R.M.; ROBAS, V.I.; SEMIN, G.K.

Particular features of the structure of β-chloronaphthalene crystals. Zhur. struk. khim. 6 no.3:474-475 My-Je '65.

(MIRA 18:8)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

24.7800
24 6111

S/181/62/004/003/014/045
B142/B102

AUTHORS: Myasnikova, T. P., and Yatsenko, A. F.

TITLE: Changes in the infrared spectra of NH_4HSO_4, $RbHSO_4$ and $(NH_4)_2SO_4$ on transition into the ferroelectric state

PERIODICAL: Fizika tverdogo tela, v. 4, no. 3, 1962, 653-656

TEXT: The reasons for the occurrence of ferroelectricity in NH_4HSO_4, $RbHSO_4$ and $(HNH_4)_2SO_4$ were explained by means of the changes in the infrared spectra. For this purpose the purified substances (recrystallization in aqueous solution with NH_4HSO_4 and $(NH_4)_2SO_4$ and growing from an aqueous equimolar solution of Rb_2SO_4 and H_2SO_4 with $RbHSO_4$) were cooled below the corresponding Curie points. NH_4HSO_4 is ferroelectric between -3° and -119°C, $RbHSO_4$ below -15°C and $(NH_4)_2SO_4$

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S/181/62/004/003/014/045
B142/B102

Changes in the infrared ...

below -50°C. The SO_4^{--} group with NH_4HSO_4 and $RbHSO_4$ (ionic vibrations 800 - 1400 cm^{-1}) showed no changes in the spectrum except for a splitting of the 867 cm^{-1} band with NH_4HSO_4 above the Curie point. Hence the SO_4^{--} radical does not influence ferroelectricity. It was found that the 3165 cm^{-1} band of NH_4HSO_4 splits into the components 3100 cm^{-1} and 3190 cm^{-1}; with $RbHSO_4$ the 3200 cm^{-1} band splits into two (3100 cm^{-1} and 3200 cm^{-1}). The splitting can be calculated from the crystallographic structure of the unit cells and the resulting ionic symmetry. Comparison of the measured and the calculated band confirms the space groups of the isomorphous crystals of NH_4HSO_4 and $RbHSO_4$. The occurrence of the 3100 cm^{-1} and 3200 cm^{-1} bands in both crystals below the Curie point suggests a proton tunneling along the O-H-O bond. Hence it can be

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Changes in the infrared ...

concluded that the H-bond in O-H-O causes ferroelectricity in $RbHSO_4$ and NH_4HSO_4. In the range of SO_4^{--} ionic vibrations above the Curie point the spectrum of $(NH_4)_2SO_4$ shows a splitting of the broad band with its center at 1080 cm^{-1} into the components 1035 cm^{-1}, 1100 cm^{-1}, and 1143 cm^{-1} and and intense, narrow 963 cm^{-1} band. In the frequency range of the H bond the 3235 cm^{-1} band splits into two (3190 cm^{-1} and 3290 cm^{-1}), from which a proton tunneling along the N-H-O bond can be concluded. The 963 cm^{-1} band and the failing of a shift in the Curie point at deuteration contradict the assumption that the H-bond causes ferroelectricity in $(NH_4)_2SO_4$. There are 6 figures, 2 tables, and 13 references: 5 Soviet and 8 non-Soviet. The four most recent references to English-language publications read as follows: R. Pepinsky, K. Vedam. Phys. Rev., 114, 1502, 1960. R. Pepinsky, K. Vedam. Phys. Rev., 114, 1217, 1959. R. Pepinsky et al., Phys. Rev. 111, 1508, 1958. S. Hoshino et al., Phys. Rev. 112, 405, 1958.

Card 3/4

Changes in the infrared ...

S/181/62/004/003/014/045
B142/B102

ASSOCIATION: Rostovskiy-na-Donu gosudarstvennyy universitet (Rostov-na-Donu State University)

SUBMITTED: October 27, 1961

Card 4/4

L 18385-63 EWT(1)/EWP(q)/EWT(m)/BDS/ES(s)-2 AFFTC/ASD/ESD-3/LJP(C)/SSD
ACCESSION NR: AP3003869 Pt-4 GG/RDW/JD S/0181/63/005/007/1783/1790

AUTHORS: Bazhulin, P. A.; Myasnikova, T. P.; Rakov, A. V.

TITLE: Investigation of the vibrational spectra of some ferroelectric materials by combination scattering of light

SOURCE: Fizika tverdogo tela, v. 5, no. 7, 1963, 1783-1790

TOPIC TAGS: ferroelectricity, combination scattering, vibrational spectrum, ammonium, sulfate, selenate, Rb, Li, Na

ABSTRACT: The authors have obtained and studied the spectra of combination scattering in the ferroelectric compounds $(NH_4)_2SO_4$, NH_4HSO_4, $RbHSO_4$, $LiH_3(SeO_3)_2$, and $NaH_3(SeO_3)_2$ at room and lower temperatures near the point of phase transition. From these spectra they have measured the width and relative intensities of the bands and have discovered a dependence of band intensity on orientation of crystal for spectral excitation in natural and artificial light. In addition to the bands corresponding to internal vibration of the SO_4^- ion, several "extraneous" bands were found in the spectra of sulfates and bisulfates. However, low-frequency vibrations declining in frequency at the Curie point were not observed. The authors

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L 18385-63
ACCESSION NR: AP3003869

conclude that their work makes possible reliable interpretations of the spectra of the investigated crystals in the frequency range of 300-1200 cm^{-1}. The study of temperature dependence near the phase transition has shown that the vibrational frequencies of the SO_4^{--} and SeO_3^{--} radicals change insignificantly with temperature. Orig. art. has: 2 figures and 8 tables.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR, Moscow (Physical Institute, Academy of Sciences, USSR)

SUBMITTED: 07Jan63 DATE ACQ: 15Aug63 ENCL: 00

SUB CODE: PH NO REF SOV: 004 OTHER: 012

Card 2/2

ACCESSION NR: AP4020974 S/0051/64/016/003/0540/0541

AUTHOR: Myasnikova, T.P.; Aref'yev, I.M.

TITLE Low-frequency absorption spectra of some ferroelectrics

SOURCE: Optika i spektroskopiya, v.16, no.3, 1964, 540-541

TOPIC TAGS: ferroelectric, ferroelectric transition, optical mode, absorption spectrum, ammonium sulfate, rubidium bisulfate, lithium hydroselenite, sodium hydroselenite, lattice vibration

ABSTRACT: It is known from the work of P.Anderson (Physics of Dielectrics, Trudy Vsesoyuznoy konferentsii 1958,M.1960), W.Cochran (Adv.Phys.9,387,1960) and V.L.Ginzberg (FTT 2, 2031,1960; Usp.fiz.nauk 77,621,1962) that phase transitions in ferroelectrics affect a small number of optical modes, the frequency of which decreases greatly at the Curie point. It is of interest to identify these modes. In investigating the temperature behavior of the bands of the ferroelectric materials $(NH_4)_2SO_4$, $RbHSO_4$, $LiH_3(SeO_3)_2$ and $NaH_3(SeO_3)_2$ by observation of their Raman spectra (P.A Bazhulin, T.P.Myasnikova and A.V.Rakov, Ftt 5, 1783, 1963) no low-frequency vibrations sensitive to the ferroelectric transition were detected. Accordingly, the pre-

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ACCESSION NR: AP4020974

sent investigation of the infrared absorption spectra was undertaken to seek such low-frequency vibrations. The present paper describes the preliminary results obtained for the 55 to 170 cm^{-1} region with observation at room temperature. The spectra were obtained by means of a special long wavelength spectrometer constructed in the Physical Institute of the Academy of Sciences (SSSR) with a 4 lines/mm echelette grating; the infrared source was a PRK-4 mercury discharge tube. The detected absorption bands are listed in the table (Enclosure 01). The bands are tentatively identified. Definite identification of the "ferroelectric modes", however, must await further studies involving observation of their temperature behavior. "The authors are grateful to P.A.Bazhulin for his interest in the work and discussions." Orig.art.has: 1 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 24Jun63 DATE ACQ: 02Apr64 ENCL: 01

SUB CODE: PH NR REF SOV: 004 OTHER: 006

Card 2/3

MYASNIKOVA, Ye.V.; TKACHENKO, L.A., otv. red.

[Transition from the mean daily discharge of flood waters in the rivers of the Ussuri basin to the maximum] O perekhode ot srednesutochnogo pavodochnogo raskhoda vody na rekakh basseina r. Ussuri k maksimal'nym. Vladivostok, Primorskoe knizhnoe izd-vo, 1964. 5 p. (MIRA 17:12)

BYKOVTSEV, G. I. (Voronezh); MYASNYANKIN, Yu. M. (Voronezh)

Theory of the drawing of a rigid plastic strip through curvilinear dies. Izv. AN SSSR. Mekh. i mashinostr. no.3:113-116 My-Je '64.

DANILOV, B.P., inzh.; BORODITSKAYA, R.M., inzh.; ZHUDOV, V.F., inzh.; BORISOVA, N.S., inzh.; MYASNYANKINA, T.V., inzh.; KIL'DEYEVA, V.Ye., inzh.

Shrinkage of air-entrained concrete without autoclave treatment. Stroi.mat. 8 no.1:38-40 Ja '62. (MIRA 15:5)
(Air-entrained concrete)

BARINOV, A.A.; BORODITSKAYA, R.M.; BORISOVA, N.S.; DANILOV, B.P.; MYASNYANKINA, T.V.; TOKAREV, G.I.

Single-layer slabs made of nonautoclaved air-entrained fly-ash concrete. Stroi. mat. 9 no.2:22-23 F '63. (MIRA 16:2)

1. Donetskiy nauchno-issledovatel'skiy institut nadshakhtnogo stroitel'stva Akademii stroitel'stva i arkhitektury UkrSSR (for Barinov, Borodit-skaya, Borisova, Danilov). 2. Nachal'nik otdela novykh stroitel'nykh materialov Donetskzhilstroya (for Myasnyankina). 3. Nachal'nik Donetskogo domostroitel'nogo kombinata No.1 (for Tokarev).
(Concrete slabs) (Air-entrained concrete)

KUZIN, A.M.; GLEMBOTSKIY, Ya.L.; LAPKIN, Yu.A.; KALENDO, G.S.; BREGADZE, Yu.I.; MAMUL', Ya.V. [deceased]; MYASNYANKINA, Ye.N.

Mutagenic effectiveness of incorporated C^{14}. Radiobiologiia 4 no.6: 804-809 '64. (MIRA 18:7)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.

MYASNIKOV, L.L. (Leningrad); MYASNIKOVA, Ya.N. (Leningrad);
SEREBRYAKOV, G.A. (Leningrad)

"Tactile" transducer using surface ultrasonic waves. Akust. zhur. 9 no.3:385 '63. (MIRA 16:8)

(Transducers) (Ultrasonic waves)

ACCESSION NR: AR4028477 S/0275/64/000/002/V021/V021

SOURCE: Referativny*y zhurnal. Elektronika i yeye primeneniye. Svodny*y tom, Abs. 2V134

AUTHOR: Myasnikova, Ye. I.; Serebryakov, G. A.

TITLE: Concerning the simulation of touch by means of surface ultrasonic waves

CITED SOURCE: Sb. tr. Leningr. mekhan. in-ta, no. 33, 1963, 43-47

TOPIC TAGS: ultrasonic, surface ultrasonic waves, simulation of touch, tactile analyzer, barium titanate pickup, pressure dependence

TRANSLATION: An ultrasonic model of a tactile analyzer is described. A grid of surface ultrasonic waves was produced at frequencies 0.8 and 2.5 Mc/sec with the aid of wedges made of polystyrene with barium-titanate piezoelements on a plate made of fused quartz, steel,

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ACCESSION NR: AR4028477

aluminum, or MA-3 alloy. The UZD-7N flaw detector was used as the receiving and transmitting unit. The pulse amplitude decreased if an object was located on the path of the surface waves, and depended on the pressure of the object against the surface of the plate. The dependence of the received pulse on the pressure of a rectangular object made of porous and solid rubber is presented. Some problems are considered in the theory of obtaining images and the transmitting ability of the model of the tactile analyzer. 3 illustrations. Bibliography, 3 titles. O. K.

DATE ACQ: 31Mar64 SUB CODE: SD ENCL: 00

Card 2/2

L 46183-66 EWT(d)/EWT(m)/EWP(w)/EWP(t)/ETI/EWP(k) IJP(c) JD/HW/EM

ACC NR: AP6013894 SOURCE CODE: UR/0020/66/167/006/1260/1262

AUTHOR: Bykovtsev, G. I.; Myasnyankin, Yu. M. (Academician)

ORG: Voronezh State University (Voronezhskiy gosudarstvennyy universitet)

TITLE: Slip surfaces in three dimensional rigid plastic bodies

SOURCE: AN SSSR. Doklady, v. 167, no. 6, 1966, 1260-1262

TOPIC TAGS: plastic strength, shear stress

ABSTRACT: By the slip surface is understood the surface at which the material experiences the maximum clean shear. The article is an attempt to demonstrate mathematically that the surfaces of discontinuity of the velocities and the surfaces of discontinuity of the rate of deformation coincide with the slip surfaces. After an extended mathematical treatment the article arrives at the relationship

$$\frac{\partial [u^{\alpha}]}{\partial y_{\gamma}} g_{\alpha\alpha} + \frac{\partial [u^{\alpha}]}{\partial y_{\alpha}} g_{\gamma\alpha} = 0. \qquad (22)$$

which defines a system of three equations which must be satisfied by the

Card 1/2 UDC: 539.214

L 6183-66

ACC NR: AP6013894

discontinuities in the velocities at the slip surface. Orig. art. has: 22 formulas.

SUB CODE: 11, 20/ SUBM DATE: 16Jul65/ ORIG REF: 005/ OTH REF: 001

Card 2/2

ARKHIPOV, M.I.; MYASNYANKINA, T.I.

Effect of phenols and phenol, butyl formaldehyde resins on the formation of the oil-lacquer film and its properties. Lakokras.mat. i ikh prim. no.2:11-13 '64. (MIRA 17:4)

1. Ivanovskiy khimiko-tekhnologicheskiy institut.

OKHRIMENKO, N.N., podpolkovnik meditsinskoy sluzhby; BRODOVSKIY, V.K., mayor meditsinskoy sluzhby; MYASOYED, L.P.

Clinical aspects of serous meningitis. Voen.-med. zhur. no.5:46-47 My '61. (MIRA 14:8)

(MENINGITIS)

MYASOYEDOV, A. N.

"The Production of Continous Ingots by the Thiflow Crystallization Method of the Myasoyedov Brothers, A. N. and A. N."
Tsvet. Met. 14, No 10-II, Oct.-Nov. 1939.

Report U-1506, 4 Oct. 1951

MYASOYEDOV, A. K. Cand. Tech. Sci.

Dissertation: "Investigation of the Factors for Obtaining the High-Quality Refractories for Melting Glass Used in the Electrical Industry." All-Union Sci Res Inst of Glass - VNIIS, 26 Jun 47.

SO: Vechernyaya Moskva, Jun., 1947 (Project #17836)

MYASOYEDOV, A. N.

Continuous Casting of Grey Iron. A. N. Myasoedov and I. P. Dudnik. (*Liteinoe Proizvodstvo*, 1952, 8, (11), 2-5). (In Russian). A description of the operating principles and the design of the continuous-casting machine are given. Quality of continuously cast grey iron with that cast in sand and chill moulds is compared. The relationship between microstructure, cross-section of the billet, and cooling rate is discussed.—V. C.

MYASOYEDOV, A.N.

Continuous founding. Lit.proizv.no.12:1-3 D '57. (MIRA 11:1)
(Founding)

MYASOYEDOV, A.N., inzh.; VLADIMIROV, L.S.

Machining of crankshaft journals in marine engines. Proizv.-tekh. sbor no.1:90-100 '59. (MIRA 13:9)

1. Tsentral'noye proyektno-konstruktorskoye byuro.
(Marine engines) (Cranks and crankshafts)

SOV/129-59-6-6/15

AUTHORS: Prosvirin, V.I., Doctor of Technical Sciences, Zudin, I.F., Candidate of Technical Sciences, and Myasoyedov A.A., Engineer

TITLE: Diffusion Metallic Cementation in Aerosols (Diffuzionnaya metallotsementatsiya v aerozolyakh)

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov 1959, Nr 6, pp 24 - 30 and 35 - 38 (USSR)

ABSTRACT: The here described method of diffusion metallic cementation in aerosols, for which an "Author's Certificate" was issued in 1950, permits surface saturation of steel with various metals (aluminium, chromium, manganese etc.) in gases containing suspended solid-phase particles. This can be effected by means of equipment, a diagrammatic sketch of which is shown in Figure 1, p 25. After heating in a furnace the component is quickly charged into a retort and a dosing apparatus is put into operation which contains double or treble the required feed rate of the mixture (during the first 10 to 15 min of heating) so as to achieve rapid filling of the retort with the reaction products of the mixture in order to prevent oxidation of the component. Every 1 to 2 min the dosing apparatus feeds

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Diffusion Metallic Cementation in Aerosols

working mixture into the retort in small portions. A suitable substance for alitising is a mixture of fine aluminium powder and ammonium chloride. A part of the aluminium powder will be suspended in the gaseous phase forming aerosols. At elevated temperatures the ammonium chloride evaporates and decomposes forming hydrogen chloride, nitrogen and hydrogen. Under conditions of low-temperature heating from 300 - 400 °C, the reaction proceeds with the formation of ammonia and hydrogen chloride. The hydrogen chloride is the basic gas which participates in the subsequent reactions of chlorination of the metals. The chemical reactions during chlorination were investigated by means of a test rig, as shown in Figure 2. The kinetics of chlorination of Al, Cr, Mn Ti, Mo, Fe and Ni, in a hydrogen chloride atmosphere at 700, 900 and 1 100 °C, were investigated on the basis of the changes in the volume of the reaction products. The results, for durations of up to 90 min, are graphed in Figure 4. The obtained results are discussed in some detail. Experiments are also described which have been

Diffusion Metallic Cementation in Aerosols

made on the diffusion of aluminium and chromium from the gaseous phase. Although metallic powder was present in a suspended state, special experiments show that the diffusion activity of the medium is predominantly influenced by the vapour phase. In the experiments, the gaseous medium formed as a result of heating of the active mixture consisting of aluminium, aluminium chloride and sodium chloride, which was placed into a porcelain boat, 0.25 g sodium chloride was added for the purpose of stabilising the activity of the forming gaseous products. The low-carbon steel plates (15x10x2 mm) and wire of 0.7 mm were placed above the boat, not in contact with the mixture. The boat with the steel specimens was then charged into a porcelain tube and placed into a cold furnace. Before heating up, the tube was flushed with pure nitrogen for the purpose of ejecting air oxygen. In all the experiments the heating up to a temperature of 950 ^{o}C lasted for about 30 min, which temperature was held for 2 hours. Following that, the specimens were cooled in the furnace for a duration of 10 min after each experiment, the aluminium saturation of the wire, the microstructure

Diffusion Metallic Cementation in Aerosols

and the heat-resistance of the specimen at 900 °C (for 50 hours) and also the quantity of mixture carried away from the boat as a result of vapour formation were determined. The results of these experiments are entered in Table 2. The heat resistance corresponded to the quantity of absorbed aluminium - the higher the aluminium absorption the higher was the heat resistance. Experiments with addition to the charge of a mixture consisting of NaCl Al and $AlCl_3$ showed that it is possible to alitise without introducing into the mixture ammonium chloride or aluminium chloride. The results of chromating experiments with an active mixture consisting of chromium sodium chloride and aluminium chloride are entered in Table 4. In the last part of the paper, the authors discuss the factors which influence the metallic cementation in aerosols. For alitizing, they recommend an active mixture consisting of aluminium powder, sodium chloride and ammonium chloride with the weight ratios 4:2:1. Experiments have shown that forced circulation must be applied to achieve satisfactory alitising. The results obtained in alitizing experiments

Diffusion Metallic Cementation in Aerosols

with iron and steel specimens are entered in Table 5. In Figure 5, the heat resistance at 900 °C is graphed for iron alitized at 950 °C for durations of 2 hours and 4 hours. In Figure 6 the influence of the alitizing temperature, for an alitizing duration of 2 hours and of the duration of the alitizing, for an alitizing temperature of 950 °C, is graphed. Interesting results were obtained in experiments relating to simultaneous saturation of steel strips with Al and Cr. these and also results obtained with simultaneous saturation of steel with Al and Mn are entered in Table 6. In Figure 7, the distribution as a function of the depth is graphed of Al and Cr in the diffusion layer of austenitic steel after Al chromation in aerosols at 1 050 °C for 6 hours. In Figure 8 the distribution is graphed of Mn in the diffusion layer of austenitic steels after simultaneous saturation with Mn and Al by diffusion for 6 hours at 950 and 1 050 °C respectively.

SOV/129-59-6-6/15

Diffusion Metallic Cementation in Aerosols

There are 8 figures and 6 tables.

ASSOCIATION: TsNIITMASh

Card 6/6

GOROZHANKIN, A.N., kand.tekhn.nauk; NOVITSKIY, V.K., kand.tekhn.nauk; KRYANIN, I.R., doktor tekhn.nauk; IODKOVSKIY, S.A., kand.tekhn. nauk; LADYZHENSKIY, B.N., kand.tekhn.nauk; MIL'MAN, B.S., kand.tekhn. nauk; KLOCHNEV, N.I., kand.tekhn.nauk; TSYPIN, I.O., kand.tekhn. nauk; LEVIN, M.M., kand.tekhn.nauk; BALDOV, A.L., inzh.; LIASS, A.M., kand.tekhn.nauk; CHERNYAK, B.Z., kand.tekhn.nauk; ASTAF'YEV, A.A., kand.tekhn.nauk; YERMAKOV, K.A., inzh.; GRIBOYEDOV, Yu.N., kand.tekhn.nauk; MYASOYEDOV, A.N., inzh.; BOGATYREV, Yu.M., kand. tekhn.nauk; UNKSOV, Ye.P., doktor.tekhn.nauk, prof.; SHOFMAN, L.A., kand.tekhn.nauk; PERLIN, P.I., inzh.; MOSHNIN, Ye.N., kand.tekhn. nauk; PROZOROV, L.V., doktor tekhn.nauk; CHERNOVA, Z.I., tekhn. red.

[Some technological problems in the manufacture of heavy machinery] Nekotoryye voprosy tekhnologii tiazhelogo mashinostroeniia. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry. Part 1 [Steel smelting and casting; founding; heat treatment, shaping metals by pressure] Vyplavka i razlivka stali, liteinoe proizvodstvo, termicheskaia obrabotka, obrabotka metallov davleniem. 1960. 266 p. (Moscow. Tsentral'nyi nauchno-issledovatel'skii institut tekhnologii i mashinostroeniia. [Trudy] no. 98). (MIRA 13:7)
(Steel) (Founding) (Forging)

MYASOYEDOV, B.F.

Category : USSR/Nuclear Physics - Structure and Properties of Nuclei C-4

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3216

A : Guseva, L I , Filippova, K V., Gerlit, Yu.B., Druin, V.A , Myasoyedov, B F., Tarantin, N I.

Title : Experiments on Obtaining En and Fm with a Cyclotron.

Orig Pub : Atom energiya, 1956, No 2, 50-54

Abstract : [illegible] with [illegible] quintuple-charged ions of N and sextuple-charged ions [illegible] accelerated with a cyclotron having a magnet with pole diameter [illegible] cm. The transplutonian elements were separated by the fluoride method using La as a carrier. The half lives and the energies of the particles were measured with the aid of photographic plates and an ionization chamber with a spherical electrode. The quintuple-charged ions of N were obtained in a specially developed slit-type source. The energy of the N ions at the maximum radius was 105 Mev, and the ion current was 5×10^{-7} amp. Irradiation of U by N ions produced the isotope En^{247}, identified by the value of T and by the energy of the particles. Sextuple-charged O ions were obtained by "stripping" double-charged O ions on molecules of the residual gas in the cyclotron

Card : 1/2

Category : USSR/Nuclear Physics - Structure and Properties of Nuclei C-4

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3216

chamber. The maximum energy of the accelerated sextuple-charged ions of O at the maximum radius was 120 Mev. The current of ions with energies exceeding 100 Mev was 3×10^{-9} amp. The isotope Fm was obtained by exposing U to ions of O and was identified by the value of T and by the energy of the α particles. Several hundreds of atoms each of isotopes of Cf, Bk, and Cm were separated by the chromatographic method.

Card : 2/2

MYASOYEDOV, B. F., FILIPPOVA, K. V., FLEROV, G. N., GERLIT, Yu. B., GUSEVA, L. I. and TARANTIN, N. I. (Acad. Sci. USSR)

"Mass Distribution of Fission Fragments Formated by Nitrogen Ions on Gold and Uranium Nuclei,"

paper submitted at the A-U Conf. on Nuclear Reactions in Medium and Low Energy Physics, Moscow, 19-27 Nov 57.

MYASOYEDOV, B.F.

56-2-4/47

AUTHOR: GERLIT, Yu.B., GUSEVA [illegible], MYASOYEDOV, B.F., TARANTIN, N.I., FILIPPOVA, K..., FLEROV, G.N.

TITLE: Yield of Californium Isotopes Produced in the Interaction between Carbon Isotopes and Uranium Nuclei
(Vykhody izotopov kaliforniya v reaktsiyakh vzaimodeystviya yader ugleroda s yadrami urana. Russian)

PERIODICAL: Zhurnal Eksperim. i Teoret. Fiziki 1957, Vol 33, Nr 2 (8), pp. 339 - 342 (U.S.S.R.)

ABSTRACT: In a 67 cm cyclotron four-fold charged carbon ions are accelerated up to 90 MeV. With this energy they impinge upon a thick uranium target and cause the reaction U(C, n)Cf. The absolute yields per impinging carbon ion and the following reactions are:

$$U^{239}(C^{12}, 4n)\ Cf^{246} \qquad 1{,}5 \cdot 10^{-9}$$

$$U^{239}(C^{12}, 5n)\ Cf^{245} \qquad \sim 3{,}0 \cdot 10^{-9}$$

$$U^{239}(C^{12}, 6n)\ Cf^{244} \qquad \leqslant 9 \cdot 10^{-11}$$

The fissioning of uranium bombarded with carbon was found to be $3{,}8 \cdot 10^{3}$ times more probable than the evaporation process of neutrons from the intermediary nucleus Cf^{250}.

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56-2-4/47

Yield of Californium Isotopes Produced in the Interaction [illegible] Carbon Isotopes and Uranium Nuclei

(With 1 table and 4 Illustrations).

ASSOCIATION Academy of Sciences [illegible] USSR (Akademiya nauk SSSR)

PRESENTED BY

SUBMITTED 5.3.1957

AVAILABLE Library of Congress

Card 2/2

Myasoyedov B.F.

AUTHORS: Tarantin, N. I., Gerlit, Yu. B., Guseva, L. I., 56-2-7/51
Myasoyedov, B. F., Filippova, K. V., Flerov, G. N.

TITLE: The Mass Distribution of Fission Products Produced by the Irradiation of Gold and Uranium by Nitrogen Ions (Raspredeleniye po massam produktov deleniya, obrazuyushchikhsya pri obluchenii zolota i urana ionami azota)

PERIODICAL: Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, 1958, Vol 34, Nr 2, pp 316-321 (USSR)

ABSTRACT: The present work investigates the mass spectrum of the fission fragments of radon and einsteinium which are formed in the irradiation of gold and uranium with nitrogen ions. First the experimental method is discussed. Gold- and uranium plates of a thickness of 30 μ were irradiated with five-times charged nitrogen ions from a slit source at the inner ray of an 150 cm cyclotron. The energy of the nitrogen ions was 115 MeV. After the dissolution of the irradiated target the different radioactive elements on the corresponding carriers were dissolved. The radioactive

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The Mass Distribution of Fission Products Produced by the Irradiation of Gold and Uranium by Nitrogen Ions 56-2-7/51

isotopes were identified according to their half life. The relative yields of the nuclei identified this way are listed in a table. A diagram shows the yields of the nuclei given in this table as a function of the mass number A. The main part of the yield of fission products is concentrated within a comparatively narrow interval of mass numbers. The yield of fission fragments increases rather greatly with an increase of the mass number from 7o to 1oo, and with still greater mass numbers it decreases to the same extent. From the experimental values of the yields of single nuclei the total yields of the corresponding mass series (massovaya tsepochka) were computed. The additional taking into account of the yields of nuclei not identified in these experiments changes only little the character of the distribution of experimental points. The curve of the distribution of fission fragments in relation to the mass with the values A = 85 to 115 has the shape of a narrow peak with a half width of about 2o mass units. The yields of $Ga^{72,73}$, Se^{123}, Sb^{122} and the yields of the series of decays corresponding to these nuclei do not coincide with the monotonous course of the curve and are a little greater as normal. About 2o

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The Mass Distribution of Fission Products Produced by the Irradiation of Gold and Uranium by Nitrogen Ions 56-2-7/51

different isotopes were identified among the fission products forming in the irradiation of uranium with nitrogen ions. The yields of the accumulated nuclei are collected in a table. The fission of nuclei under the action of heavy particles can be represented by the following scheme: Formation of a compound nucleus, emission of neutrons and fission. The half width of the curve of the distribution of fission fragments on the mass is considerably smaller in the fission of radon than in the fission of einsteinium. There are 2 figures, 2 tables, and 1o references, 4 of which are Slavic.

SUBMITTED: August 2o, 1957

AVAILABLE: Library of Congress

1. Gold-Irradiation 2. Uranium-Irradiation 3. Nitrogen ions-Applications 4. Isotopes-Determination

Card 3/3

SOV/56-36-2-45/63

21(8)
AUTHORS: Karamyan, A. S., Gerlit, Yu. B., Myasoyedov, B. F.

TITLE: On the Problem of the Formation of Compound Nuclei During the Interaction of Atomic Nuclei (K voprosu ob obrazovanii sostavnykh yader pri vzaimodeystvii atomnykh yader)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 36, Nr 2, pp 621-623 (USSR)

ABSTRACT: An investigation of the interaction of multicharged ions with nuclei of various elements leads to the following problem: In what degree do these reactions proceed by the total fusion of the colliding nuclei (with subsequent evaporation of neutrons)? The curves for the dependence of the cross section of a reaction with flying off of a given number of neutrons on the excitation energy of the compound nucleus can be used as a criterion of these reactions. A. W. Stoner's new data concerning the bifurcations of the α-decay and of the K-capture and also more precise measurements of the energy of the accelerated nitrogen ions permitted a more precise determination of the excitation functions of the reactions $Au^{197}(N^{14},xn)$ with x = 4,5,6. These excitation

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On the Problem of the Formation of Compound Nuclei During the Interaction of Atomic Nuclei

functions (which are shown in a diagram) with flying off of 5, and 6 neutrons are characteristic of the formation of a compound nucleus. According to the absolute values of the cross sections, the reaction very probably proceeds in this way. If the energy of the nitrogen ions is higher than 70 Mev, the compound nuclei of Zn^{211} are disintegrated, which complicates the investigation of the deviations from the formation of compound nuclei in the region of high excitation energies. For this purpose, light nuclei have to be used as targets. The authors investigated the interactions of accelerated ions of N^{14}, N^{15}, C^{12}, and C^{13} with vanadium nuclei. Carrying out of the experiments is discussed in short. A diagram shows the dependence of the cross sections of the reactions with flying off of 2, 3, and 4 neutrons on the excitation energy of the compound nucleus Zn^{65} ($V^{51} + N^{14} \longrightarrow Zn^{65}$)*. It was not possible to separate the reactions with flying off of 4 neutrons from the possible reaction of direct formation of Cu^{61} by flying off of 3 neutrons

On the Problem of the Formation of Compound Nuclei During the Interaction of Atomic Nuclei

and 1 proton. The diagram, therefore, shows the summated cross section of these 2 reactions. The third diagram shows the analogous curves for reactions, in which the flying off of a number of particles was investigated for the same product (Cu^{61}) of the reaction. These curves indicate the presence of other reactions which may, for example, be connected with the so-called local heating. The results of the present paper are also compared with those obtained by other authors. Without taking into account some details of the excitation functions, the following may be said: In the interval of the mass numbers 50 - 200 of the target nuclei the interaction with multicharged ions in a significant degree develops by the formation of compound nuclei. The authors thank Professor G. N. Flerov (who supervised the present paper), and the graduated students A. A. Pleve and V. A. Fomichev for their help in the measurements and in the evaluation of the results. There are 3 figures and 6 references, 2 of which are Soviet.

SUBMITTED: September 16, 1958

Card 3/3

GUSEVA, L.I.; MYASOYEDOV, B.F.; TARANTIN, N.I.; FILIPPOVA, K.V.

Cross sections of the formation of Cm^{240} by the radiation of Th^{232} with C^{12} and C^{13} ions. Zhur.eksp.i teor.fiz. 37 no.4: 973-977 O '59. (MIRA 13:5)
(Curium--Isotopes) (Thorium--Isotopes)
(Carbon--Isotopes)

FLEROV, G.N.; POLIKANOV, S.M.; KARAMYAN, A.S. [deceased]; PASYUK, A.S.; PARFANOVICH, D.M.; TARANTIN, N.I.; KARNAUKHOV, V.A.; DRUIN, V.A.; VOLKOV, V.V.; SEMCHINOVA, A.M.; OGANESYAN, Yu.TS.; KHAIZEV, V.I.; KHLEBNIKOV, G.I.; MYASOYEDOV, B.F.; GAVRILOV, K.A.

Experiments to produce element No. 102. Zhur. eksp. i teor. fiz. 38 no.1:82-94 Jan '60. (MIRA 14:9)

1. Sotrudniki Ob"edinennogo instituta yadernykh issledovaniy (for Polikanov, Oganesyan, Gavrilov). 2. Sotrudnik Instituta geokhimii i analiticheskoy khimii AN SSSR (for Myasoyedov).
(Transuranium elements)

23878
S/186/61/003/001/011/020
A051/A129

21.3100

AUTHORS: Gavrilov, K.A., Myasoyedov, B.F., Khlebnikov, G.I.

TITLE: The production of targets from plutonium for the irradiation on a cyclotron with multi-charge ions

PERIODICAL: Radiokhimiya, v 3, no 1, 1961, 62-67

TEXT: The article deals with a description of the production of targets made from specially purified samples of plutonium, which are used for producing the 102nd element. The authors studied the possibility of producing pure plutonium by eliminating ultra-small quantities of Fe, Tl, Hg, Bi, Pb, Pt. They were able to obtain Pu^{239}, Pu^{240} and Pu^{242} isotopes, containing Pb $< 0.01\ \gamma$ to 100 γ of Pu and other interfering elements below the sensitivity line of the activation method. Finally, they prepared targets, which were used for the production of the 102nd element from purified samples of plutonium by the electrolytic method and the method of evaporation with

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tetraethyleneglycol. Admixtures, such as Tl, Hg, Bi, Pb, Pt, are thought to be rather dangerous in the target material, even in small quantities, since during the interaction of multi-charge ions with elements they form isotopes emitting α-particles with an energy close to the energy of the α-particles of the 102nd element and a great number of α-particles of other energy levels creating a rather high background impeding the viewing of the photoplates. The thickness of the plutonium layer on the targets was about 200 γ/cm^2. The quantity of the stabilizing material was not to exceed about 200 γ/cm^2 calculated on the copper equivalent. The administration of the plutonium isotopes had to be carried out on very thin linings to avoid a decrease in the energy of the bombarding particles, since the formation cross-section of the trans-uranium elements depends to a large extent on the energy of these particles. The work was based on the fact that plutonium (IV) is well extracted from a 5 n nitrate solution with diethyl ether, whereas the main interfering elements under these conditions barely pass into the ether phase (Ref 3). The second purification stage of plutonium was based on the formation of Pt, Bi, Hg, Tl^{3+} stable anion complexes and their sorption by the anionite within a wide range of HCl concentrations (Ref 4). The ex-

The production of targets from plutonium ...

periments showed that the NO_3^- ions even at low concentrations (~0.01 M) extremely hinder (~100 times) the purification of plutonium from lead and bismuth on the ion-exchanging column. It is assumed that when heating tetravalent plutonium in 11 n HCl its partial reduction to the tri-valent state takes place. The work carried out resulted in the production of [illegible] samples as given above. The targets were produced by electr[illegible] simple application of active solutions, using organic additives [illegible] case of electrolysis the method of plutonium formation from [illegible] was chosen (Ref 5,6) en[illegible] stable layers. The a[illegible] i.e., an interfering e[illegible]ment the electrolytic p[illegible] lysis time, with respe[illegible] mineral acids and alk[illegible] even from 0.1 n sol[illegible] on the cathode is sh[illegible] were tested for [illegible] nickel, molybdenum, gall[illegible]

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2[illegible]79

The product[illegible] of target[illegible] from [illegible] [illegible]/020
A[illegible]

Mo, Pd and W [illegible] unsuitable due to their dis[illegible] [illegible]. The only suitable electrode[illegible] rhodium [illegible] graphite. A study was made of the depositing pr[illegible] depending [illegible] of the electrolyte, current density, time and type of [illegible] Al, [illegible] Ni, Nb. The authors assume that under the sele[illegible] conditions [illegible] plutonium (IV) and (VI) are those deposited mainly on the cathode. Fig 2 is a graph of the relationship of the plutonium yield on the target to the amount of potassium bromate. The graphs (Figs 2-4) show that the change of the pH (from 3 to 7) has no significant effect on the electrolytic depositing process of plutonium. The graphite anode was also found to be successful in addition to the rhodium one. The authors point out that the advantage of the evaporation method with tetraethyleneglycol for producing targets lies in the fact that it eliminates the entering of impurities into the target, which can occur during electrolysis due to anode dissolution. It also gives good layers on small areas. There are 2 tables, 4 figures and 6 references: 4 Soviet-bloc, 2 non-Soviet-bloc.

Card 4/5

The production of targets from plutonium ...

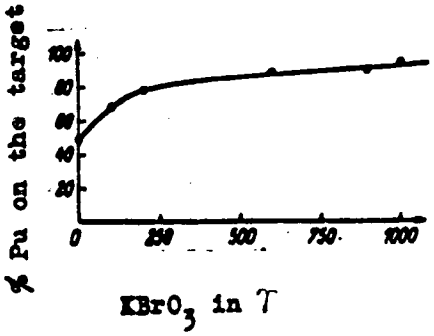

Figure 2:

Relationship of the Pu yield to the $KBrO_3$ quantity.

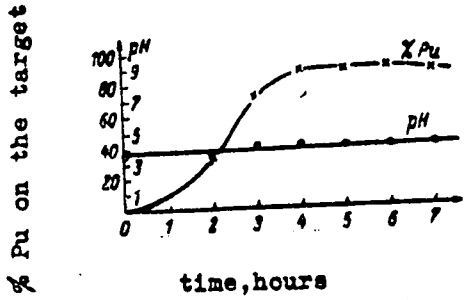

Figure 3:

Relationship of the quantity of deposited Pu to the time and pH change of the solution, in the presence of 1,000 γ $KBrO_3$.

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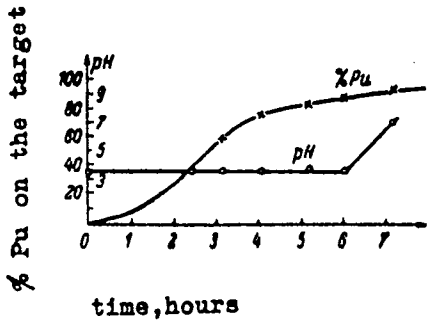
The production of targets from plutonium ...

Figure 4:

Relationship of the quantity of deposited Pu to the time and change of pH of the solution in the presence of 900 γ of $KBrO_3$.



Card 6/6

PAL'SHIN, Ye.S.; MYASOYEDOV, B.F.; PALEY, P.N.

Extraction-photometric method for the determination of pentavalent protactinium with arsenazo III. Zhur.anal.khim. 17 no.4:471-475 Jl '62. (MIRA 15:8)

1. V.I.Vernadsky Institute of Geochemistry and Analytical Chemistry, Academy of Sciences, U.S.S.R., Moscow.
(Protactinium--Analysis)

L 10616-63 EWT(m)/BDS AFFTC/ASD

ACCESSION NR: AP3001021 S/0075/63/018/005/0596/0602

AUTHOR: Myasoyedov, B. F.; Pal'shin, Ye. S. 52 51

TITLE: Effective new method for separating and purifying protactinium for its subsequent radiometric determination 19

SOURCE: Zhurnal analiticheskoy khimii, v. 18, no. 5, 1963, 596-602

TOPIC TAGS: concentrated sulfuric acid solutions, protactinium, arsenazo III, Fe, Zr, U; Hf, Po sup 210, Io sup 230, Ac sup 223

ABSTRACT: The new method for separating Pa from U ores and waste products after their treatment is based on Pa extraction from concentrated (7N) sulfuric acid solutions with isoamyl alcohol in the presence of arsenazo III. Development of arsenazo III extraction is described by Pal'shin, Myasoyedov and Paley (Zh. analit. khimii. 17, 471, 1962). Pa is effectively separated from macroamounts of Fe, Zr, U, Hf, and radioisotopes Po sup 210, Io sup 230, and Ac sup 223 in a single cycle purification. Nb remains admixed in an amount of 10% after re-extraction. This simple method permits determination of Pa in natural samples by radiometric methods with an experimental error of 3-5%. Orig. art. has: 3 tables and 7 figures. Associations: Inst. of Geo- and Analytical Chemistry

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L 10612-63 EWT(m)/BDS AFFTC/ASD

ACCESSION NR: AP3001026 S/0075/63/018/005/0657/0658

AUTHOR: Pal'shin, Ye. S.; Myasoyedov, B. F.; Novikov, Yu. P. 53

TITLE: Brief Communications-Extraction of protactinium N-benzoylphenyl-hydroxylaminate 19

SOURCE: Zhurnal analiticheskoy khimii, v. 18, no. 5, 1963, 657-658

TOPIC TAGS: protactinium-33, hydrochloric acid, sulfuric acid, N-benzoylphenyl-hydroxylamine, HF, H sub 2 C sub 2 O sub 4; H sub 2 O sub 2

ABSTRACT: Protactinium-233 is extracted quantitatively from hydrochloric and sulfuric acid solutions in a wide range of acid concentrations with N-benzoylphenyl hydroxylamine. Using sulfuric acid solutions with complexing agents such as HF, H sub 2 C sub 2 O sub 4 or H sub 2 O sub 2, Pa is purified satisfactorily from large quantities of Nb, Ti, Zr or Hf. Separation from Ta and Sb was ineffective. Orig. art. has: 1 figure

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo AN SSSR (Institute of Geo- and Analytical Chemistry, AN SSSR)

Card 1/1

L 10698-63 EDS--RML

ACCESSION NR: AP3002537 S/0075/62/018/006/0750/0756

49
48

AUTHOR: Pal'shin, Ye. S.; Myasoyedov, B. F.

TITLE: Separation of protactinium from other elements by extracting it with thenoyltrifluoroacetone

SOURCE: Zhurnal analiticheskoy khimii, v. 18, no. 6, 1963, 750-756

TOPIC TAGS: benzole extraction, protactinium complex, thenoyltrifluoroacetone

ABSTRACT: The extraction of protactinium with a 0.5M solution of thenoyltrifluoroacetone (TTA) in benzene from acid solutions of HCl, HNO_3, and H_2SO_4 has been studied. A possible purification of protactinium from Fe, Zn, Nb, U, Th, rare earth elements, and radioactive admixtures of Hf, Po, and ionic Th is presented. Protactinium is extracted from 6N HCl and 0.2M H_2SO_4 acid solutions. The re-extraction of protactinium into the water phase is accompanied with 0.2M $H_2C_2O_4$ solution. Niobium which is one of the most interfering elements in the spectrophotometric determination of protactinium is rendered unextractable with the addition of oxalic acid and, therefore protactinium is readily re-extracted. Zirconium in oxalic acid forms a colorless complex and does not interfere with determination of protactinium. It was also established

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L 10698-63
ACCESSION NR: AP3002537

that large amounts of Fe sup 2+, Mn sup 2+, Al, U sub 1 sup VI, Th and other elements do not interfere with the determination of protactinium. The interference of Fe sup 3+ is avoided by reducing it to Fe sup 2+ with ascorbic acid. Ti must be removed from the solution. The extraction of protactinium may be hindered by fluoride ions; however, this is avoided by the addition of an excess of aluminum salt. Sulfates, phosphates, and arsenates in small amounts do not interfere with the extraction. However, the presence of large quantities lowers the extractability of protactinium. Orig. art. has: 4 tables and 5 graphs.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo AN SSSR, Moscow (Institute of Geo- and Analytical Chemistry, Academy of Sciences SSSR)

SUBMITTED: 29Dec62 DATE ACQ: 12Jul63 ENCL: 00

SUB CODE: GC NO REF SOV: 003 OTHER: 007

Card 2/2

MYASOYEDOV, B.F.; PAL'SHIN, Ye.S.; PALEY, P.N.

Separation of protactinium from other elements by extraction with N-benzoylphenylhydroxylamine. Zhur. anal. khim. 19 no. 1 105-110 '64. (MIRA 17:5)

1. Institut geokhimii i analiticheskoy khimii imeni Vernadskogo AN SSSR, Moskva.

DAVYDOV, A.V.; MYASOYEDOV, B.F.; NOVIKOV, Yu.P.; PALEY, P.N.; PAL'SHIN, Ye.S.

Concentration and purification of Pa^{231} and Pa^{233}. Trudy Kom. anal. khim. 15:64-79 '65. (MIRA 18:7)

L 07926-67 EWT(m)/EWP(t)/ETI IJP(c) JD/JG

ACC NR: AP6033384 (N) SOURCE CODE: UR/0075/66/021/008/0954/0960

19
18
B

AUTHOR: Pal'shin, Ye. S.; Myasoyedov, B. F.; Novikov, Yu. P.

ORG: Institute of Geochemistry and Analytical Chemistry im. V. I. Vernadskiy, AN SSSR, Moscow (Institut geokhimii i analiticheskoy khimii AN SSSR)

TITLE: Separation of protactinium from other elements by sorption on activated charcoal saturated with phenylarsonic acid

SOURCE: Zhurnal analiticheskoy khimii, v. 21, no. 8, 1966, 954-960

TOPIC TAGS: protactinium, protactinium separation, sorption phenylarsonic acid, protactinium containing ore

ABSTRACT: The sorption of protactinium and other elements from sulfuric acid solutions on the activated charcoals "Alkaline A" and "Fruit stone" saturated with phenylarsonic acid was studied. Conditions have been established for the effective separation of protactinium from iron, uranium, aluminum, magnesium, manganese, rare earths, and other elements. The suggested method can be used for protactinium separation from the above elements in the analysis of ores containing protactinium. When protactinium is concentrated from uranium ores, the weight of waste

UDC: 543.70

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L 07926-67

ACC NR: AP6033384 /

elements can be decreased to less than one percent. The yield of protactinium is practically quantitative. The participation of Ye. Ye. Malyukov in this work is noted. Orig. art. has: 2 figures and 8 tables. [Authors' abstract]

SUB CODE: 07/ SUBM DATE: 30Nov64/ ORIG REF: 009/ OTH REF: 005/

Card 2/2 vmb

ACC NR: AP7011823 SOURCE CODE: UR/0075/66/021/009/1064/1069

AUTHOR: Myasoyedov, B.F.--Myasoedov, B. F.; Miranda, K. F.--Mirand, C. F.; Myuksar, R.--Muxart, R.

ORG: Institute of Geochemistry and Analytical Chemistry im. A. I. Vernadskiy, AN SSSR, Moscow (Institut geokhimii i analiticheskoy khimii AN SSSR)

TITLE: Absorption spectra of tetra- and pentavalent protactinium in sulfuric acid solutions

SOURCE: Zhurnal analiticheskoy khimii, v. 21, no. 9, 1064-1069

TOPIC TAGS: protactinium, hydrolysis, redox reaction, oxidation rate, crystal absorption spectrum

SUB CODE: 11,07

ABSTRACT: The spectra of tetra- and pentavalent protactinium in the visible and ultraviolet regions at different concentrations of hydrogen and sulfate ions and the changes in these spectra with time are presented. The stability of tetravalent protactinium in the absence of air was also studied. For solutions of Pa(V) in 0.5 M H_2SO_4 and in 1.5 M H_2SO_4 / 0.5 M $(NH_4)_2SO_4$ at 220 nanometers, Beers Law is applicable; the molar coefficient of extinction at this wavelength is $7.7 \cdot 10^3$. For 6 M H_2SO_4, this coefficient is considerably higher. In weakly acidic solutions,

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UDC: 543.70

ACC NR: AP7011823

the absorption spectra of Pa(V), especially in the region of 290 nanometers, change with the time of standing of the solutions and heating, which apparently is due to hydrolysis of protactinium. Reduction of Pa(V) to Pa(IV) with liquid amalgam zinc in all media investigated in the absence of air occurs rapidly (about 30 minutes). Absorption spectra of Pa(IV) change slightly as the concentrations of hydrogen and sulfate ions are varied. The rate of oxidation of Pa(IV) in sulfuric acid solutions in the absence of air is 1-2 % per day. Upon exposure to ultraviolet light and heating, this rate is considerably increased. Orig. art. has: 6 figures.

[JPRS: 40,361]

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MYASOYEDOV, G.

Hands across the border. Sov. profsoiuzy 19 no.11:26-27 Je '63. (MIRA 16:8)

(Germany, East--Trade unions)

MYASOYEDOV,G.S., MITROFANOV,Ye.V., and KUZNETSOV,V.I.

"USE of the Phenomenon of Complex-Formation in the Precipitation of Microquantities of Elements with the Aid of Organic Precipitants," a report presented at the USSR Conference on Application of T acer ATom Methods in Chemistry of Complex Compounds, Kiev, 5-8 October 1955, described in article by Z.A. Shek, Zhur. Neorgan. Khim., 1, No 2, 1956

KOLOBIKHIN, V.A.; MYASOYEDOV, M.I.; SOBOLEV, V.M.

Oxidative dehydrogenation of n-butane to bivinyl in the presence of iodine and acceptor on a unit with continuous action. Khim. prom. 42 no.9:651-653 S '65. (MIRA 18:9)

KOLOBIKHIN, V.A.; [illegible], V.M.; [illegible]; [illegible], M.I.

Dehydrogenation of [illegible] in [illegible] in the presence of iodine on an apparatus with an [illegible] moving bed. Neftekhimia [illegible] no.4:[illegible] [illegible] (MIRA [illegible])

1. Nauchno-issledovatel'skiy [illegible] kauchuka.

STEPANOV, G.A.; [illegible]IOBIKHIN, [illegible]; MYASNIKOV, M.I.; CHUGUNNIKOVA, [illegible]

Oxidative dehydrogenation of n-butane to 1,3-butadiene in the presence of iodine and hydrogen iodide acceptor. Effect of oxygen concentration. Neftekhimiia 5 no.6:815-819 N-D '65.

(MIRA 1[illegible])

1. Nauchno-issledovatel'skiy institut monomerov dlya sinteticheskogo kauchuka, Yaroslavl'. Submitted Dec. [illegible], 1964.

L 39391-65 EPF(c)/EWP(j)/EWT(m)/T Pc-4/Pr-4 RM

ACCESSION NR: AP4005737 S/0204/63/003/006/0850/0852

AUTHORS: Kolobikhin, V.A.; Sobolev, V.M.; Tyuryayev, I.Ya.; Myasoyedov, M.I.

TITLE: 1,3-butadiene synthesis by n-butane dehydrogenation

SOURCE: Neftekhimiya, v. 3, no. 6, 1963, 850-852

TOPIC TAGS: butadiene derivative, butane, butane dehydrogenation, butadiene synthesis, butadiene, olefins synthesis, dehydrogenation, alpha butylene, beta butylene, gamma butylene, propene

ABSTRACT: The authors studied the use of elemental iodine to increase the butadiene yield with n-butane dehydrogenation and ultimately to recover I_2 according to the reaction $C_4H_{10} + 2I_2 \rightarrow C_4H_6 + 4HI$, $MeO + 2HI \rightarrow H_2O + MeI_2$, $MeI_2 + 1/2O_2 \rightarrow MeO + I_2$, using as the HI, acceptor metals with changing valence in a flow system at 550C, and varying the molar ratio I_2: C_4H_{10} from 0 to 1.43. After the test was run for 30 minutes, the acceptor was easily regenerated by blowing air at the reaction temperature, and the iodine was isolated. The ratio I_2:C_4H_{10} determined the conversion rate, which increased from 36 to 70% with a ratio increase from 0.25 to 0.75 and reached

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ACCESSION NR: AP4005737

92-94% and a C_4H_6 yield of 52.8% at the highest ratio (selectivity 75% as regards $C_4H_6 + C_4H_8$). Without iodine, conversion was 16% and selectivity 28-30%. Byproducts are listed; the iodine loss was small. The iodine addition could be reduced by adding small quantities of O_2 for interior iodine regeneration. At a molar ratio $I_2:C_4H_{10} = 0.56$ and additional air, the conversion increased from 57 to 74% with slightly increased selectivity. Decreasing the temperature decreased conversion but increased selectivity. Continuous reaction and regenerating may be effected in one piece of equipment. Orig. art. has: 4 equations, 2 tables, 1 figure.

ASSOCIATION: Nauchno-issledovatel'skiy institut monomerov dlya SK (Scientific Research Institute of Monomers for SK)

SUBMITTED: 28Dec62 ENCL: 00

SUB CODE: MT, GC NR REF SOV: 001 OTHER: 004

Card 2/2 MB